

Remarks

Claims 2, 4-5 and 9-14 were pending.

Claims 5, 9, 10 and 11 are amended.

Claims 1-4 and 6-8 are cancelled.

Claim 15 is new.

Claims 5 and 9-15 are now pending.

Amended Claims

Claim 5 is amended to insert structure V. This structure may be found in example 5.

Claims 9, 10 and 11 are amended to change dependency to claim 5.

No new matter is added.

New Claim 15

Claim 15 is identical to amended claim 5 except formula (II) is deleted.

Support for this amendment may be found in example 5 and original claim 5.

No new matter is added.

35 USC 103(a)

Claims 2, 4 and 9-11 are rejected under 35 USC 103(a) as being unpatentable over Felder, US 4,308,400 as applied to claim 1 above, and in view of Gaske, US 3,844,916.

This rejection is moot as claims 1-4 have been cancelled. Note that claim 5 is not part of this rejection.

Claims 5 and 12-14 are rejected under 35 USC 103(a) as being unpatentable over Felder, US 4,308,400 in view of Gaske, US 3,844,916.

Felder teaches a composition comprising the claimed formula III. However, Felder does not teach the claimed formula III in combination with an aminoacrylate.

However, Gaske discloses a radiation curable coating composition containing a photoinitiator and an ethylenically unsaturated aminoacrylate compound. Gaske also teaches that the radiation polymerization is extended and speeded by the presence of the tertiary amine of aminoacrylate compound. Thus, as argued by the examiner, it would be obvious to use an aminoacrylate as the ethyleneically unsaturated compound of the composition of Felder to increase the extent and speed of the polymerization of the composition when exposed to UV light.

Applicants have argued unexpected results (tables 1 and 2 of the disclosure) in the last reply (07/03/2008). Examiner has stated that it is unclear from the results whether the differences in cure speeds between compositions containing the instant photoinitiators and aminoacrylates and compositions containing the instant photoinitiators in the absence of aminoacrylates are significant. Examiner believes a standard deviation would clarify. Furthermore, the examiner believes that the cure rate for example 3 and the control, Darocur 1173 are the same with or without aminoacrylate.

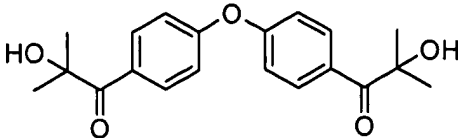
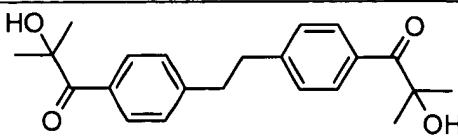
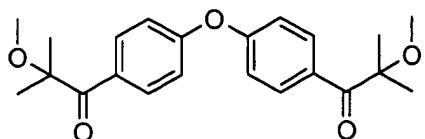
The applicants are not in a position to provide the examiner with a standard deviation as too little data is available. However, the applicants point out that claim 5 only covers three examples or formulae (II), (III) and (V) (example 1, 2 and 5). Example 3 is not encompassed by claim 5, thus addressing examiner's concerns over example 3.

Table 1 shows the curing rate of overprint coating formulation including an aminoacrylate with the photoinitiators of claimed formulae (II), (III) and (V). These structures represent photoinitiators of example 1, 2 and 5 respectively.

The same formulations including aminoacrylate are also cured using standard photoinitiators, DAROCURE 1173 AND IRGACURE 184.

Table 2 shows the same overprint coating formulation without aminoacrylate using the photoinitiators of formula (II), (III) and (V) verses typical photoinitiators (DAROCURE 1173 and IRGACURE 184). The photoinitiators of formula (II), (III) and (V) show much improved curing rate over DAROCURE 1173 and IRGACURE 184.

Photoinitiator example	Structure of Photoinitiator	Cure Rate/with aminoacrylate	Cure Rate/without aminoacrylate

Example 1	 II	140	70
Example 2	 III	120	60
Example 5	 V	120	60

While it is true that Gaske teaches that the addition of aminoacrylates will improve curing rates, Gaske says nothing about improving curing rates to above 100 m/min. Applicants point out that all three photoinitiators encompassed by claim 5, show cure speed rates that exceed 100 m/min when combined with aminoacrylates. This rate increase far exceeds that shown with the formulations absent the aminoacrylate.

Furthermore, new claim 15 excludes photoinitiator of formula (III), specifically exemplified in Felder. The examiner's rejection of claim 5, relies on the specific disclosure of Felder teaching 4,4'-bis-(alpha-hydroxy-isobutryl)-diphenylethane photoinitiator. Thus since photoinitiator of formula (III) is not encompassed by new claim 15, the applicants believe this rejection to be overcome.


Also, the broad generic disclosure of Felder does not make obvious the combination of photoinitiators of formulae (II) and (V) with aminoacrylates taught in Gaske. One skilled in the art would have to select the specific photoinitiators of formulae (II) and (V) from a broad genus described in Felder and then combine with the aminoacrylate taught in Gaske. There is no direction from either Felder or Gaske to carry out such a selection.

Reconsideration and withdrawal of the rejection of claims 5, and 9-15 is respectfully solicited in light of the remarks and amendments *supra*.

Since there are no other grounds of objection or rejection, passage of this application to issue with claims 5 and 9-15 is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,


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